

REMARKS

Reconsideration and allowance are respectfully requested.

Remarks Regarding Amendments:

Claims 1-10 are canceled. Claim 11 is withdrawn. The amendment to claim 12 is supported by original claims 1 and 12. New claims 13 and 14 are supported in the Specification in paragraph [0058]. New claims 15 and 16 are supported in the Specification in paragraph [0059] and by original claim 3. New claims 17-19 are supported in the Specification in paragraph [0060]. New claim 20 is supported by original claim 4. New claim 21 is supported by original claim 5. New claim 22 is supported by original claim 6. New claim 23 is supported by original claim 7. New claim 24 is supported by original claim 8. New claim 25 is supported by original claim 9. No new matters are added by these amendments.

Remarks Regarding Restriction Requirement:

Applicants confirm the election of Group 1, claims 1-10 and 12 for further prosecution. Claim 11 is withdrawn.

Remarks Regarding 35 U.S.C. §102:

A claim is anticipated only if each and every limitation as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of Calif.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is claimed. See *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claims 1-9 stand rejected, under 35 U.S.C. §102 as allegedly anticipated by U.S. Patent 6,337,118 (referred to in the Office Action and herein as "Takehana") with evidence from Furukawa (Physical Chemistry of Polymer Rheology). Applicants traverse.

Solely in an effort to expedite prosecution, Applicants have canceled claims 1-10 and presented new claims 13-25. Applicants note that claim 12 was not rejected as anticipated by Takehana with evidence from Furukawa. Each of claims 13-25 depends on claim 12 and incorporates the recitation of claim 12. Since claim 12 is not anticipated by Takehana with evidence from Furukawa, amended claim 12 and new claims 13-25, which incorporated the recitations of claims 12 also cannot be anticipated by Takehana and Furukawa. Thus, the rejection of claims 1-9 is moot and its withdrawal is requested.

Remarks Regarding 35 U.S.C. §103:

A claimed invention is unpatentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. *In re Kahn*, 78 USPQ2d 1329, 1334 (Fed. Cir. 2006) citing *Graham v. John Deere*, 148 USPQ 459 (1966). The *Graham* analysis needs to be made explicitly. *KSR v. Teleflex*, 82 USPQ2d 1385, 1396 (2007).

Claims 1-9 stand rejected, under 35 U.S.C. §103 as allegedly obvious in view of PCT application WO 01/47824 (referred to in the Office Action and herein as “Uchida”) Bicerano (Prediction of Polymer Properties) and Furukawa (Physical Chemistry of Polymer Rheology). Applicants traverse.

Solely in an effort to expedite prosecution, Applicants have canceled claims 1-10, amended claim 12, and presented new claims 13-25. Applicants note that claims 12 was not rejected as obvious in view of Uchida, Bicerano and Furukawa. Each of the currently pending claims 12-25 depends on claim 12 and incorporates the recitation of claim 12. Since claim 12 is not obvious in view of Uchida, Bicerano and Furukawa, amended claim 12 and new claims 13-25, which incorporated the recitations of claims 12 also cannot be obvious in view of the cited references. Thus, the rejection of claims 1-9 is moot in view of the claim amendments and its withdrawal is requested.

Claims 10 and 12 stand rejected, under 35 U.S.C. §103 as allegedly obvious in view of Takehana and Furukawa or in view of Uchida, Bicerano, Furukawa and U.S.

Patent 6,085,010 (referred to in the Office Action and herein as “Zahora”). Applicants traverse.

Solely in an effort to expedite prosecution, Applicants have canceled claims 1-10, amended claim 12, and presented new claims 13-25. Each of the new claims 13-25 depends on claim 12.

The claimed invention, as embodied in pending claims 12-25, is directed to optical fibers with a primary coating having a modulus of less than 3 MPa at 23°C and a secondary coating made from a curable resin composition. Properties important for the curable resin composition are enumerated in paragraph [0002] of the Specification and include: being liquid at room temperature, low viscosity, excellent applicability, and high cure speed. The properties important for the cured finished product include strength, flexibility, dimensional stability with respect to temperature and time, heat resistance, hydrolysis resistance, chemical resistance, low hygroscopicity and water absorption, light resistance; oil resistance; and low hydrogen outgassing which adversely affects the optical fibers (Specification, paragraph [0002]).

Regarding Takehana and Furukawa:

Claims 12-25 are not rendered obvious in view of a combination of the cited references at least because the combination does not teach a coated optical fiber with a primary coating with a modulus of less than 3 MPa and a secondary coating from a curable liquid resin composition.

Takehana refers to adhesives for optical disks (e.g., DVD) assembly where the adhesives have allegedly superior properties such as, transparency (essential for dual layered DVDs), moisture resistance, heat resistance, and adhesion to resin, aluminum, and gold. See, Takehana, abstract section and background section. Significantly, Takehana is directed to optical disk adhesives while the claimed invention is an optical fiber with a primary and secondary coating. Optical disks undergo different stresses during assembly than optical fibers – one is a round disc that requires a curable liquid composition as an adhesive, the other is a spinning optical fiber that requires a rapidly curing protective coating. Secondary coatings on optical fibers are not considered photocurable adhesive resin composition and may not have the properties, such as

transparency, or adhesion to aluminum and gold, that are important for an optical disk adhesive. Optical fiber coatings are considered as radiation curable coating which are supplied at great speed over a spinning fiber so they need properties of strength, flexibility, chemical resistance, and low hydrogen outgassing – properties which are not addressed in Takehana. Furthermore, Takehana does not disclose or suggest the utility of an optical fiber with a primary coating with a modulus of less than 3 MPa and a secondary coating with the glass transition temperature, and stress relaxation properties of the claimed invention.

For the reasons stated above, Applicants' claimed optical fibers are not obvious in view of Takehana. The addition of Furukawa does not cure the defects of Takehana.

Furukawa and Bicerano are textbooks relating to the general understanding of polymer property. Where the polymer property is critical to utility, in this particular case, there is not sufficient information in Furukawa and Bicerano to direct a person of ordinary skill in the art to reach the inventive optical fiber of Applicants' claimed invention – namely the advantage of having a primary coating with a modulus of less than 3 MPa and a secondary coating with the claimed properties of glass transition temperatures and stress relaxation times. Applicants have reviewed Furukawa and Bicerano carefully and found them to be interesting and useful references for information on polymers but silent as to the selection of polymers with desired physical properties for an optical fiber.

Regarding Uchida, Bicerano, Furukawa and Zahora:

Uchida refers to liquid curable resin compositions for coating optical fibers. Uchida's compositions comprise urethane (meth)acrylate compounds, (meth)acrylate compounds, and a polymer initiator. Significantly, Uchida is silent with respect to the limitations of claim 12 such as an optical fiber with a primary coating with a modulus of less than 3 MPa and a secondary coating with a specific range of glass transition temperature, and stress relaxation times. See, Specification, claim 12. For this reason, the claimed invention is not obvious in view of Uchida.

The addition of Furukawa and Bicerano to Uchida does not make the claimed invention obvious. As stated above, Furukawa and Bicerano are general textbook

relating to the general understanding of polymer property but do not teach the fabrication of optical fibers. The combination of Uchida, Furukawa and Bicerano does not teach or suggest all the limitations of the claimed invention as recited in claim 12.

Zahora is directed to compositions for making matrix material that allow mid-span access. The matrix materials bond multiple optical fibers into ribbon assemblies or other optical fiber bundles. Zahora's matrix material allows the matrix to be disrupted in mid-span and the optical fibers accessed without the use of undesirable additives such as monomers and oligomers containing fluorine or silicone. Like Uchida, Furukawa and Bicerano, Zahora does not teach or suggest the claimed limitations of having a primary coating with a modulus of less than 3 MPa and a secondary coating with the indicated properties of claim 12. Furthermore, Zahora is directed to matrix materials which are different from Applicants' claimed optical fibers with primary and secondary coatings. Applicants' claimed primary and secondary coatings are not Zahora's matrix materials. For this reason, Zahora's matrix material teachings are not applicable to Applicants' claimed invention.

Applicants have reviewed each of Takehana, Furukawa, Uchida, Bicerano, Furukawa and Zahora thoroughly and have found not found any suggestion or teaching in any of the references, either individually or in combination, that would suggest the claimed invention as recited in pending claims 12-25. For all the above stated reasons, Applicants respectfully request that the Examiner withdraw this rejection.

Conclusion

Having fully responded to the pending Office Action, Applicants submit that the claims are in condition for allowance and earnestly solicit an early Notice to that effect. The Examiner is invited to contact the undersigned if any further information is required.

Respectfully submitted,

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